



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,155	11/29/2001	Glen H. Erikson	E1047/20043	5438

3000 7590 02/19/2003

CAESAR, RIVISE, BERNSTEIN,
COHEN & POKOTILOW, LTD.
12TH FLOOR, SEVEN PENN CENTER
1635 MARKET STREET
PHILADELPHIA, PA 19103-2212

EXAMINER

CHAKRABARTI, ARUN K

ART UNIT

PAPER NUMBER

1634

DATE MAILED: 02/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,155

Applicant(s)

Erikson

Examiner

Arun Chakrabarti

Art Unit

1634



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/29/2001, 4/29/02, 5/23/02, and 7/23/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claims 10-15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5, 8, 9 6) ☒ Other: Detailed Action

Art Unit: 1634

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-9, drawn to nucleic acid hybridization, classified in class 435, subclass 6.
 - II. Claims 10-15, drawn to nucleic acid complex, classified in class 536, subclass 22.1.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions of Groups I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the nucleic acid complex of Group II can be used in the nucleic acid hybridization of Group I or can be used to make RNA or protein or can be used to make antisense nucleic acid for gene therapy.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with David Tener on December 19, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-15 are

Art Unit: 1634

withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Double Patenting

5. Claims 1-4 and 6-8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,265,170 B1 (July 24, 2001) . Although the conflicting claims are not identical, they are not patentably distinct from each other because broad claims 1-25 of U.S. Patent No. 6,265,170 B1 encompass the methods of instant claims for determining an affinity of a first nucleobase-containing sequence for a second nucleobase-containing sequence, the method comprising:

a) providing a test medium containing the first nucleobase-containing sequence and the second nucleobase-containing sequence, wherein the first nucleobase-containing sequence and the second nucleobase-containing sequence are of different lengths;

b) applying a voltage across the test medium;

c) measuring a test electric current through the test medium; and

d) determining the affinity by evaluating whether the test electric current is equivalent to a reference electric current of a reference medium containing any size of the first nucleobase-containing sequence and the second nucleobase-containing sequence.

Claims 1-25 of U.S. Patent No. 6,265,170 B1 further inherently teach the method, wherein the first nucleobase-containing sequence and the second nucleobase-containing sequence

Art Unit: 1634

are either single-stranded or double-stranded having different affinity for each other including antiparallel complementary bonding, which is determined by comparing the test electric current with the reference electric current.

6. Claims 5 and 9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,265,170 B1 in view of Golankiewicz et al. (Bull. Acad. Pol. Sci., ser. Sci. Chim. (1970), Vol. 18(8), pages 449-454).

Claims 1-25 of U.S. Patent No. 6,265,170 B1 teach the method of claims 1-4 and 6-8 as described above.

Claims 1-25 of U.S. Patent No. 6,265,170 B1 do not teach the method, wherein the affinity is non-bonding association.

Golankiewicz et al. teach the method, wherein the affinity is non-bonding association (Page 449, Title and first paragraph).

It would have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to substitute and combine the non-bonding association in nucleic acids of Golankiewicz et al. in the claims 1-25 of U.S. Patent No. 6,265,170 B1, since Golankiewicz et al states, "Unbonded base-base interaction in polynucleotide chains is highly responsible for several physical and chemical properties of the nucleic acids e.g., hypochromism, stability of single or double-stranded molecules (Page 449, first paragraph, lines 1-3). An ordinary artisan would have been motivated to substitute and combine the non-bonding association in nucleic acids of Golankiewicz et al. in the claims 1-25 of U.S. Patent No. 6,265,170 B1 in order to achieve the

Art Unit: 1634

express advantages, as noted by Golankiewicz et al., of an unbonded base-base interaction in polynucleotide chains which is highly responsible for several physical and chemical properties of the nucleic acids e.g., hypochromism, stability of single or double-stranded molecules.

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun Chakrabarti, Ph.D. whose telephone number is (703)

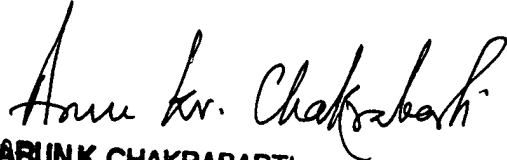
Art Unit: 1634

306-5818. The examiner can normally be reached on 7:00 AM-4:30 PM from Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, who can be reached on (703) 308-1119. The fax phone number for this Group is (703) 305-7401.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group analyst Chantae Dessau whose telephone number is (703) 605-1237.

Arun Chakrabarti,
Patent Examiner,
February 10, 2003


ARUN K. CHAKRABARTI
PATENT EXAMINER